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27 January 1955

MEMORANDUM FOR: THE RECORD

SUBJECT : Balloon Overflights--  
Stereo Camera Operations

1. On 17 January 1955 a meeting was called by [redacted] of WAD at which representatives of TSS, Commo, and SR/FI were present. This meeting was held to discuss a SR requirement for a subject type of activity. The general requirement as revealed by SR is contained in a memorandum to the Chief/TSS from SR/COP/FI dated 3 January 1955, subject of which is "Joint U.S. Navy/CIA Balloon Launching Tests". The following paragraphs in quotations were extracted from the above mentioned memorandum, and they represent APD's portion of the SR requirement. The paragraphs read as follows:

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"The contemplated balloon photography overflight will utilize only one balloon/navigator/photographer. In requesting meteorological studies, we have used previously determined aerial photography criteria as determined by Mr. Arthur Lundahl, ORR and [redacted] C/TSS/APD. Based on the above operational, meteorological and load restrictions, the following photographic information should be determined:

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1. How many aerial type cameras could or should be taken?
2. What type of camera or cameras should be utilized?
3. Will the camera be compact enough to be operated in the confined area of a balloon gondola - is a camera bracket or swivel mount possible? Would an opening in the basket floor be practical for vertical exposures?
4. Will the camera require a power supply to operate the camera or provide interior heating for the film and camera mechanism?
5. Will the shutter/trigger operation be simple enough to be operated by the gloved hands of the operator?
6. Will night photography or photography in poor light be possible?

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7. What filters are required and will they be so modified as to provide ease of adjustment and removal?
8. What means could be employed by the operator to overcome clouds, haze and poor photography conditions over the target area?
9. What type of film will be utilized?
10. What photogrammetry gimmicks should be utilized to achieve stereo effect, the proper overlap, measurable tilt, indicate drift, etc.?
11. What information is required in order to compile an adequate photo flight log?
12. What waterproofing, moisture-proofing or insulation of the camera will be necessary?
13. What type and how much training will be required to qualify the balloon pilot/photographer?
14. What would be the total weight allowance for photographic equipment for photography at 5,000 ft., 10,000 ft., 15,000 ft., 20,000 ft.?
15. How precise must the photography be? Should it satisfy strict photogrammetry specifications?"

2. During the meeting some concern was directed toward the enemy's ability to track the subject balloon with radar, and it was suggested that Staff D/FI had or may have information regarding this fact. Considerable testing was done formerly under APD direction to determine the susceptibility of detection of balloons by radar. Information collected during such tests may be found in a closed APD file (P-82).

3. Another point which arose was one which indicated a need for a suitable waterproof container for the camera and all of its film should the balloonist be forced to land in the water prior to rescue. Inquiries should probably be made of the Navy and the Air Forces and possibly the missiles groups at Los Alamos to determine whether or not such containers are already in existence prior to considering the development of an appropriate container.

4. On 26 January 1955 [ ] of Mr. Lundahl's shop, Extension [ ] was contacted to determine how the program of the cameras was progressing. He indicated that they had not been received as yet and that the camera being ordered was one of Swiss manufacture rather than a K-20 which was originally proposed.

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I indicated to him that I thought that we should also acquire several K-20's to have them on hand for the coming tests. It was further agreed that [ ] would come to APD at 2:30 pm on 28 January to discuss this entire problem more completely and determine what steps should be taken next. As soon as cameras are available one or more gondolas will be requisitioned from the warehouse in order that the necessary modifications and adaptations of the equipment can be made.

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5. On 26 January the undersigned was also contacted by [ ] of TSI, who is also somewhat concerned about the coming tests, and he pointed out that perhaps many of the photographic tests could be performed over land prior to the pending submarine tests which would be done under-water. He further indicated that in operating a balloon considerable difficulty was encountered in attempting to pass directly over a previously chosen target and that provisions should probably be made so that photographs could be taken with the camera over the side of the gondola as well as down through the bottom of the gondola. If this type of operation is encountered, provisions must be made to provide the photometrist with the tilt angle which was employed making such oblique photographs.

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6. It was felt following the meeting of 17 January that a representative of APD should be designated as representative for APD's part in this project, and it was suggested that [ ] assume this responsibility particularly in view of the fact that the undersigned will probably not be on hand when the pending tests are contemplated.

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